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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,479	12/27/2001	Dong Yeung Kwak	8733.504.00	7754

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WASHINGTON, DC 20006

EXAMINER
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ERDEM, FAZLI

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/026,479

Applicant(s)

KWAK ET AL.

Examiner

Fazli Erdem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al. (5,166,085) in view of Park et al. (6,335,276) further in view of Lee et al. (6,274,884).

Regarding Claims 1-7, Wakai et al. disclose a method of manufacturing a thin film transistor where a metal layer, a gate insulating film, a semiconductor layer, an n-type semiconductor layer, and an ohmic metal layer are formed on a substrate in the order mentioned. Then, the film and the layers are patterned into those having the same shape and size. Next, a source metal layer and a drain metal layer are formed on the ohmic metal layer. Further, a portion of the ohmic metal layer, a portion of the source metal layer, and a portion of drain metal layer are etched to form a channel portion. A transparent electrode is formed on the source metal layer. The film and the layer are sequentially formed and are patterned simultaneously. The transparent electrode is formed on the uppermost layer. Wakai et al. fail to disclose the required ohmic/drain and width/portion structures. However, Park et al. disclose a method for manufacturing a thin film transistor array panel for a liquid crystal display and a photolithography method for fabricating thin films where the required ohmic/drain structures are disclosed. Furthermore, Lee et al. disclose thin film transistors for liquid crystal displays where the required width/portion structures are disclosed.

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It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required ohmic/drain and width/portion structures in Wakai et al. as taught by Park et al. and Lee et al. respectively in order to have a liquid crystal display device with better performance.

2. Claims 8-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al. (5,166,085) in view of Park et al. (6,335,276) further in view of Lee et al. (6,274,884) further in view of Ukita (6,310,668)

Regarding Claims 8-20, Wakai et al., Park et al., and Lee et al. combination fail to disclose the required overlapping structure. However, Ukita discloses an LCD wherein opening in source electrode overlaps gate electrode to compensate variations in parasitic capacitance where a semiconductor layer formed adjacent to a gate insulating film; a drain and a source electrode both formed in opposite ends of the semiconductor layer; and a gate electrode formed in the gate insulation film so as to be disposed in a partially overlapping relationship with both the drain and the source electrode.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required overlapping structure in Wakai et al., Park et al., and Lee et al., combination as taught by Ukita, in order to have a liquid crystal display device with better performance.

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3. Claims 21-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al. (5,166,085) in view of Park et al. (6,335,276) further in view of Lee et al. (6,274,884) further in view of Nakazaw (5,097,297).

Regarding Claims 21-23, Wakai et al., Park et al., and Lee et al. combination fail to disclose the required overlapping structure. However, Nakazawa discloses a thin film transistor where the required overlapping structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required overlapping structure in Wakai et al., Park et al., and Lee et al., combination as taught by Nakazawa, in order to have a liquid crystal display device with better performance.

4. Claims 24-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al. (5,166,085) in view of Park et al. (6,335,276) further in view of Lee et al. (6,274,884) further in view of Ukita (6,310,668) further in view of Song et al. (5,886,757)

Regarding Claims 24-32, Wakai et al., Park et al., and Lee et al. combination fail to disclose the required overlapping structure. However, Ukita discloses an LCD wherein opening in source electrode overlaps gate electrode to compensate variations in parasitic capacitance where a semiconductor layer formed adjacent to a gate insulating film; a drain and a source electrode both formed in opposite ends of the semiconductor layer; and a gate electrode formed in the gate insulation film so as to be disposed in a partially overlapping relationship with both the drain and the source electrode. Wakai et al., Park et al., Lee et al., and Ukita combination fail to disclose the required method of making required liquid crystal display device. However, Song

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et al. disclose a liquid crystal display device and method of fabricating the same where the required method is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required method in Wakai et al., Park et al., Lee et al., and Ukita combination as taught by Song et al. in order to make a liquid crystal display device with better performance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

FE

  
**Minhloan Tran**  
**Primary Examiner**  
**Art Unit 2826**